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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,874	09/10/2003	Samir Kumar	D/A2425	3222

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,874

Applicant(s)

KUMAR ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 13-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8, 13, 14, 18-21, 23, 24, 28, 29 and 31 is/are allowed.
- 6) ☒ Claim(s) 15-17, 25-27 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. Claims 15-17, 25-27, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 15 recites the limitation "said coating polymer" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by replacing the phrase "polymer is" on line 2 with --comprises--.

4. Claim 16 is rendered indefinite because it is unclear from the language of the claim whether the polymer coating *is* one of the recited polymer or whether the coating *comprises* one of the recited polymer. This rejection may be overcome by replacing the term "is" on line 2 with --comprises--.

5. Claim 17 is rendered indefinite because it is unclear from the language of the claim whether the polymer coating *is* one of the recited polymer or whether the coating *comprises* one of the recited polymer. This rejection may be overcome by replacing the term "is" on line 2 with --comprises--.

6. Claim 27 recites the limitation "said polypyrrole mixture" in line 3. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by replacing the phrase "said polypyrrole mixture" with --said mixture--.
7. Claim 27 recites the limitation "said pyrrole polypyrrole" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by replacing the phrase "said pyrrole polypyrrole" with --pyrrole--.
8. Claim 30 recites the limitation "said conductive polypyrrole" in line 4-5. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by replacing the phrase "said conductive polypyrrole" with --said conductive polymer--.
9. Claim 30 recites the limitation "said pyrrole polypyrrole" in line 5. There is insufficient antecedent basis for this limitation in the claim. This rejection may be overcome by replacing the phrase "said pyrrole polypyrrole " with --pyrrole--.

Claim Rejections - 35 USC § 102

10. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Drappel et al. (U.S. Patent 6,391,509).

Drappel et al. teach a carrier comprising a core and a polymer coating which comprises a mixture of a coating polymer and a conductive polymer (column 5, lines 47-49). The conductive polymer may be any of a number of commercially available conductive polymers (column 8, lines 62-64). Suitable commercially available conductive polymers include Eonomer (column 9, lines 56-60), which is the same material used in the instant invention (see pages 13 and 14 of the instant specification, particularly page 14, lines 6-9 in which Eonomer is described as being

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comprised of intrinsically conductive polypyrrole or polyaniline polymers deposited into carbon black matrix by an in situ polymerization.

While Drappel et al. do not teach that the concentration of conductive polymer is about 0.1 wt% of the polymer coating, claim 26 is not limited to polymer coatings comprising 0.1 wt% of conductive polymer. Rather, claim 26 recites that the coating contains therein additional carbon black with conductive polyaniline or polypyrrole. Therefore, claim 26 permits the total amount of conductive polymer contained in the polymer coating to be greater than about 0.1 wt%, thus reading on the carrier of Drappel et al.

Claim Rejections - 35 USC § 103

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drappel et al. (U.S. Patent 6,391,509) in view of Viswanathan et al. (U.S. Patent 6,764,617).

Drappel et al. teach a carrier comprising a core and a polymer coating which comprises a mixture of a coating polymer and a conductive polymer (column 5, lines 47-49). The conductive polymer may be any of a number of commercially available conductive polymers (column 8, lines 62-64). Suitable commercially available conductive polymers include polyaniline doped with a sulfonic acid (column 8, lines 65-67) and Eeonomer (column 9, lines 56-60), which is the same material used in the instant invention (see pages 13 and 14 of the instant specification, particularly page 14, lines 6-9 in which Eeonomer is described as being comprised of intrinsically conductive polypyrrole or polyaniline polymers deposited into carbon black matrix by an in situ polymerization.

While Drappel et al. do not teach that the concentration of conductive polymer is about 0.1 wt% of the polymer coating, claim 25 is not limited to polymer coatings comprising 0.1 wt% of conductive polymer. Rather, claim 25 recites that the coating contains therein polyaniline attached to lignin, in addition to the conductive polymer containing in a carbon black matrix. Therefore, claim 25 permits the total amount of conductive polymer contained in the polymer coating to be greater than about 0.1 wt% (i.e. about 0.1 wt% of intrinsically conductive polypyrrole or polyaniline polymers deposited into carbon black matrix and an indeterminate amount of polyaniline attached to lignin).

One skilled in the art would be motivated to use any combination of the conductive polymer recited in Drappel et al. in any amount (provided that the total amount of conductive polymer was between about 5-70 wt% of the coating) because it has been held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. See MPEP 2144.06.

Drappel et al. do not teach the use of a polyaniline attached to lignin. However, Drappel et al. do teach that the polyaniline may be doped with an organic acid, preferably a sulfonic acid (column 8, lines 65-67).

Viswanathan et al. is directed to a composition comprising polyaniline doped with a lignosulfonic acid compound (column 1, lines 61-64). Lignosulfonic acid compounds are abundant and inexpensive (column 5, lines 15-16).

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One skilled in the art would be motivated to use a lignosulfonic acid as the sulfonic acid of dopant Drappel et al. because it is inexpensive and known to be suitable for doping polyaniline.

Allowable Subject Matter

12. Claims 1-8, 13, 14, 18-21, 23, 24, 28, 29, and 31 are allowed.

13. The following is a statement of reasons for the indication of allowable subject matter.

Upon reconsideration and in view of the applicants' arguments, the examiner agrees that Drappel et al. provides no motivation to one skilled in the art to adjust the concentration of the conductive polymer in the coating to about 0.1 wt% as claimed from the disclosed range of about 5-70 wt%. Therefore, the rejections over Drappel et al. are withdrawn.

Conclusion


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
Tech Center 1700